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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/411,521 10/04/99 KOSHKARIAN

K 98-639

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QM02/1025

EXAMINER

JEFFERY, J

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 10/25/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/411521

Applicant(s)

Koshkarian et al

Examiner

Jeffery

Group Art Unit

3742

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 9/8/00
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-14 is/are pending in the application.
- Of the above claim(s) 3, 4, 6, 7, 9, & 11-13 is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1, 2, 5, 8, 10, & 14 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 1 7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

Applicant's election of Invention I and Species A, Subspecies 1, and Sub-subspecies I with traverse is noted. Accordingly, claims 3, 4, 6, 7, 9, and 11-13 are hereby withdrawn from consideration as being (1) directed to a non-elected invention (claim 13) and (2) being directed to nonelected species.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 5, and 8 are rejected under 35 USC 102 (b) as being clearly anticipated by Watanabe et al (US5118644). See Col. 4, lines 20-28, Col. 10, lines 19-25, and Col. 3, lines 55-59.

Claims 1, 2, and 8 are rejected under 35 USC 102 (b) as being clearly anticipated by Kamatsu (US4713302). See Col. 1, lines 40-48.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligations under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103.

The following is a quotation of 35 USC 103 (a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) and (g) of section 102 of this title, shall not preclude

patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 10 and 14 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Koshkarian et al (US5578349) in view of Watanabe et al (US5118644) or Kamatsu (US4713302). Koshkarian et al (US5578349) discloses a silicon nitride glow plug with a protective coating thereon with a thickness of 1-5 μm for corrosion protection. The claims differ from the previously cited prior art in calling for the protective coating to be a rare earth silicate coating. Providing a rare earth silicate coating on a silicon nitride ceramic is conventional and well known in the art as evidenced by Watanabe et al (US5118644) noting Col. 4, lines 20-28, Col. 10, lines 19-25, and Col. 3, lines 55-59 or Kamatsu (US4713302) in Col. 1, lines 40-48 wherein a silicon nitride ceramic is coated with a rare earth silicate coating to increase mechanical strength. In view of Watanabe et al (US5118644) or Kamatsu (US4713302), it would have been obvious to one of ordinary skill in the art to provide a rare earth silicate coating in lieu of the coating disclosed by Koshkarian et al (US5578349) so that a thinner protective coating is used and fabricated by merely oxidizing the surface thereof, thereby simplifying manufacture.

Claims 10 and 14 are rejected under 35 U.S.C. 103 as being unpatentable over Watanabe et al (US5118644) or Kamatsu (US4713302) in view of Koshkarian et al (US5578349). The claims differ from the previously cited prior art in calling for a glow plug. The use of silicon nitride as a main glow plug material is well known in the art as shown by Koshkarian et al (US5578349) wherein the material is used due to its ability to withstand elevated temperatures and thermal shock resistance. Furthermore, the general use of silicon nitride materials for glow plugs is conventional in the art. In view of Koshkarian et al (US5578349), it would have been obvious to one of ordinary skill in the art to incorporate the teachings of coating the silicon nitride material with a rare earth silicate coating in a glow plug in order to increase the corrosion resistance of the glow plug.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The art should be both separately considered and considered in conjunction with the previously cited prior art when responding to this action.

JP 464, US 427, US 958, JP 364, US 809, US 859, US 039, US 983, US 120, JP 386 disclose ceramics with coatings thereon. US 607 discloses a glow plug with a coating thereon.

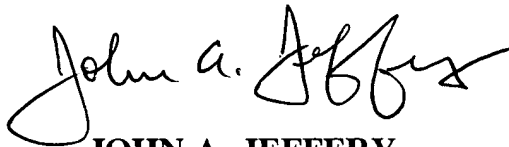
Any inquiry concerning this or earlier communications from the examiner should be directed to John A. Jeffery at telephone number (703) 306-4601 or fax (703) 308-7764.

Serial Number: 09/411521

Art Unit: 3742

The examiner can normally be reached on Monday-Friday from 7:00 AM to 3:30 PM EST.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0861.

A handwritten signature in black ink, appearing to read "John A. Jeffery". The signature is fluid and cursive, with the first name "John" being the most prominent part.

JOHN A. JEFFERY
PRIMARY EXAMINER

09/22/00